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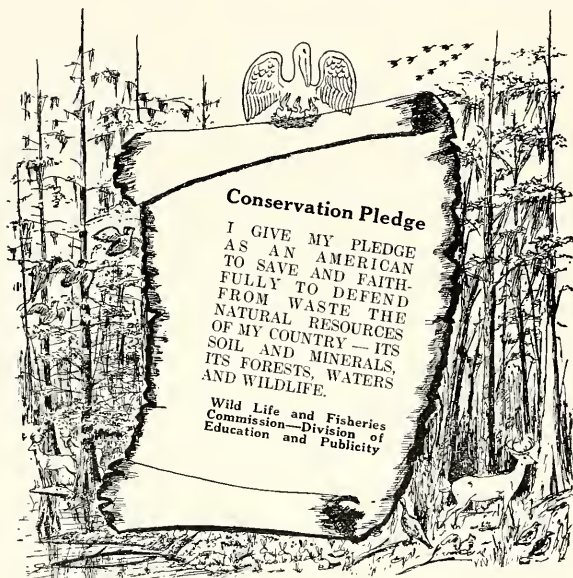
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COVER

SHRIMP FLEET

By F. LAMAR CLEMENT, *Director*

Louisiana Wild Life and Fisheries Commission

NOW THAT THE months of May and June are upon us, marking the last of spring and the beginning of summer, our sportsmen and vacationists will take to the highways by the legion. And . . . although we hate to make this prediction . . . some will never return for they will have joined that Luckless Legion of automobile casualties into which were drafted last year 2,800,000 Americans, we learn from a report of one of the nation's largest insurance firms.

This is an army of suffering humanity which grows more and more rapidly each year. And—what is the most pitiful is that it is a legion of good red blooded



F. LAMAR CLEMENT

Americans who have set out not as a conquering army, but rather as a legion of men, women and children in conquest of real outdoor fun and recreation as a brief surcease from the daily humdrum of school, household and career duties. This is an army which is made up of the injured and the dead, the heedless and the innocent, the young and the old. Since the automobile first appeared on the American scene, these ranks of crippled and dead have included more than 60,000,000 of us . . . more people than populate a majority of any single nation in the world.

The Luckless Legion is a silent, haunted army. We erect no monuments to it. It has no unknown soldier's grave. No grim reminders to mark the sleek beauty

of the roads and the highways which are its scene of battle. A newspaper headline, perhaps, marks the induction of the latest recruit . . . then silence—silent suffering . . . a lifetime of pain, or the silent memories of those who mourn when the dead are laid to rest.

Now this may indeed seem a grim subject to bring up when so many of us are hell bent on having a wonderful vacation and indulging in the fine recreational facilities afforded us in every corner of our state. Nonetheless, there were 36,700 men, women and children numbered among the dead of the Luckless Legion during the past year. For every fatality there were 77 people who suffered painful injuries. Hour by hour, and day by day, this total climbed until it reached the staggering total of 2,825,000, all the victims of this automotive Frankenstein being directed by an army of reckless, careless, irresponsible and incompetent men, women and adolescents.

At whose door does the responsibility lie? Where does the responsibility for this shocking condition rest? Is it with the schools, the parents, traffic authorities, or in these young people themselves?

We feel that it is a combination of all these things. More schools must provide driver-training instruction, and many more parents must face up to this problem that could cost the life of other children, traffic courts must "get tougher" and, most important, the young must realize that tragedy will strike as a result of thoughtless actions behind the wheel. The 900,000 youngsters born during World War II must realize that this country faces a crisis that has cost more casualties since the advent of the automobile than the toll from all wars.

You, alone, will know when the meeting time is near—the temptation to bear down a little harder on the gas, to beat the darkness home, to test your reflexes when they are dulled by sleep or alcohol, to jay-walk on crowded streets, to forget caution when weather and road conditions are bad. During 1959, every time you are behind the wheel of a car, remember that the Luckless Legion is looking for recruits . . . Louisiana sportsmen and vacationists.



This box-type trap is being used successfully by technicians of the Louisiana Wild Life and Fisheries Commission in rabbit tagging program.

Rabbits In Louisiana

Robert Murry & Jack Sims
Game Biologists

THE LATE JOEL Chandler Harris knew something about the requirements of a good rabbit habitat. Brer Rabbit, then as now, depended upon his beloved briar patch for escape cover. He shared an environment with numerous other animals whose main aim in life seemed to be to dine on tender rabbit flesh. Apparently the Brer Rabbit that Uncle Remus tells us of, knew his enemies well, and generally managed to stay a few hops ahead in the game of life.

Rabbits are still with us despite the development of many devices for use in moving them from their "laughing place" to the stew pot. These devices are more efficient and much less messy than the old outmoded Tar Baby rabbit trap.

Rabbits have been endowed by nature with the largest biotic potential of any game species we have . . . mammal or bird. More simply stated, "They raise

like rabbits." A young female just reaching maturity at the beginning of the first major period of spring breeding can, under optimum conditions, not only become the mother of a host of rabbits, but can be the grandmother of many of the rabbits we bag the following winter. This rapid rate of reproduction plus fleetness afoot and protective coloration are the rabbit's defenses against the many meat-eaters that seek him.

Mammals and birds that prey upon rabbits are almost legion in number. According to published accounts of predation observed by trained wildlife technicians and naturalists, these predators range in size from mice to mountain lions. Add snakes, disease, parasites, nest destruction by floods, plowing, burning, etc., to the decimating factors. Thus, we can readily see that the high reproductive rate is essential to survival.

Another agent of mortality is the automobile. Strangely enough, this provides valuable information regarding trends in Louisiana's rabbit population. Most people see a good many dead rabbits along the highways of the state but are never heard to express what they see in terms of dead rabbits per 100 miles. Commission personnel do exactly that. Pittman-Robertson employees conduct random road counts of rabbits, dead or alive, anytime while driving a vehicle during daylight hours. Since the closing mileage is recorded and the count ceases when the headlights are turned on, live rabbits do not constitute a very large percent of the total. There are some bugs in this system and the count is known to have been locally affected by increased or decreased traffic. Increased traffic can cause many more rabbits to be available for counting within a stable population. The statewide scope of the counts, however, serves to smooth out the effects of local changes in traffic density.

Two non-native predators of rabbits that definitely warrant control are free ranging domestic cats and dogs. These animals enjoy a much more liberal hunting season than you do and can decrease your harvest of rabbits considerably. There seems to be a more definite prey-predator relationship between rabbits and rabbit eaters than between any other game and their predators. Two native predators whose numbers fluctuate with the number of available rabbits are the fox and bobcat. Percentage-wise the bobcat is the leader with rabbits supplying the bulk of the average bobcat's subsistence every month of the year. On the other hand, the fox, with larger numbers and more widespread distribution, doubtlessly consumes more rabbits than the bobcat, numerically speaking. Neither of these animals are desirable in large numbers around an area developed for high rabbit production.

Mention of the word rabbit causes different emotions with different people. Sometimes home gardeners, nurserymen, truck farmers, and foresters receive such damage that a slight blood pressure change can be detected whenever the subject is brought up. The fast growing clan of beagle owners also react, but quite differently, to mention of the word. The growth rate of this group makes it almost certain that the once lowly rabbit will soon be the most sought after species of game in Louisiana.

Missouri, which claims to be the cottontail state, confidently states that one out of each five rabbits bagged in the United States during the 1958 season was killed

in Missouri. Hunter preference in Louisiana makes the swamp rabbit and its marsh dwelling subspecies much more sought after than the cottontail. In fact, we can boast more "cane cutter" habitat than any other state. While research in other states has unraveled some of the mysteries that surround the swamp rabbit, there are many questions still unanswered.

Joe Herring, Supervisor of District II, and employees under his supervision, have set the enviable record of operating the most successful swamp rabbit trapping program ever reported. This work is being conducted on two areas, in Morehouse parish, one cattle free, the other grazed. After much experimentation with scented lures and with baits, this operation is now highly successful from the standpoint of rabbits trapped, ear tagged, and released at the trap sites.

Quite a few rabbits have been re-trapped, and some of these have visited the traps many times. Only one veteran from last year's trapping has been recaptured this year. This operation was planned to provide more specific information on movements, hunter kill and longevity of swamp rabbits, as well as the effects of cattle competition on them. It is sure to provide Joe with adequate information to prepare an interesting, informative, technical paper on the successful trapping techniques which have been developed.

Rabbit hunters could be a happier lot if so many of them didn't insist on living in highly developed urban areas and competing with each other for the available rabbits in all of the nearby coverts. Many areas are hunted so hard that they cease to be attractive to hunters long before the season closes. Even more good areas remain virtually unhunted season after season. Development of a cheap and simple means of getting the hunters and the rabbits together could prove to be a wonderful tool of game management in Louisiana.

Interested in managing for rabbits? Mix a large supply of high quality, year-round rabbit foods, including winter greens and summer annuals, with a good distribution of native briar patches and just try to keep Brer Rabbit out.



Rabbits are tagged prior to release in state research area. Note tag in left ear.



Captain Harvey Christian, district enforcement agent of the Louisiana Wild Life and Fisheries Commission, and game agent Dan Mayo, check turkey gobbler bagged by Lee Griffin, center, in Morehouse Parish during recent seven-day open season.

Turkey Increase?

IS THE WILD turkey population in Louisiana on the increase?

Current reports from three district supervisors of the Louisiana Wild Life and Fisheries commission on the number of gobblers bagged during the recent seven-day hunt in three sections of the state may well point to a population increase of the big game birds. These men say that 215 or more tom turkeys were bagged from April 2 through April 8, in portions of ten Louisiana parishes.

Wildlife biologists making these reports included Joe Herring, of Monroe, Dewey Wills, of Ferriday, and Kenneth Smith, of Baton Rouge, all district supervisors in the areas open for turkey hunting.

In Morehouse parish, 16 gobblers were bagged, according to Herring. The largest weighed 21 pounds. Wills said that 60 tom turkeys were killed in portions of Tensas, Madison, and Franklin parishes.

Turkeys taken in the Florida parishes area, as reported by Smith, were as follows: St. Helena, 45; East Feliciana, 43; Livingston, 30; Washington, 12; and St. Tammany, nine. Last year only six of the big birds were killed in the Washington-St. Tammany area, according to Smith.

The district supervisors said their information on the number of gobblers bagged during the open season was secured through cooperation of field biologists and game agents of the Louisiana Wild Life and Fisheries commission.

Game biologists of the commission said the spring turkey seasons are set to open after mating has taken place. They also point out that the more than 100 percent increase in the bag this year, over previous years, was due in part to more favorable turkey populations as a result of the heavy mast crops as evidenced last year, and to improved hunting conditions.



Food Plot for the Future.



Construct dam on Bodcau site.

Ready Bodcau Public Shooting Area

John L. Haygood and Robert B. Kimble

Game Biologists

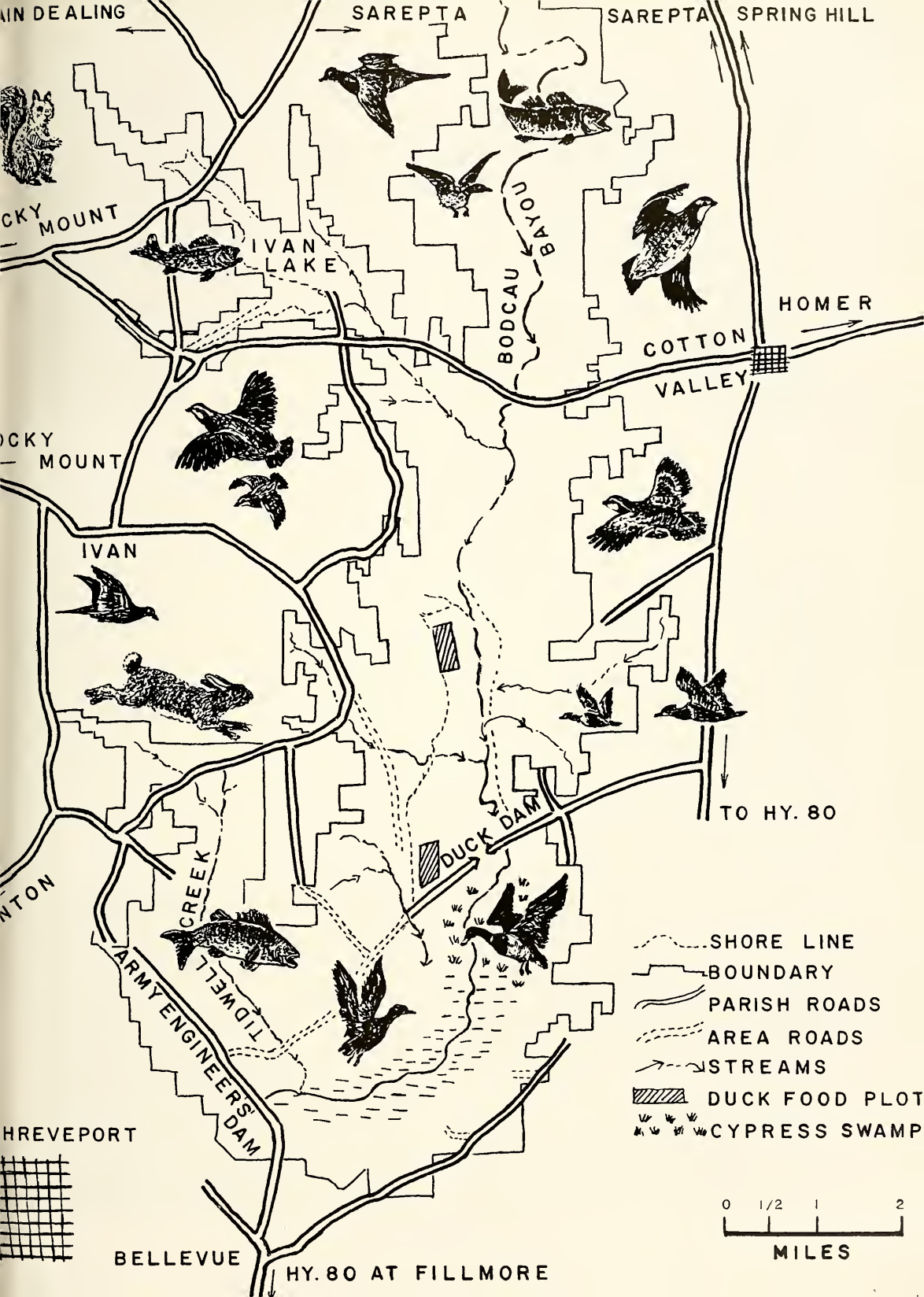
MEANDERING down through Southern Arkansas and into Northwest Louisiana, is a large drainage system known as "Bodcau." This stream empties into the Red River above Coushatta, Louisiana, which is some 200 miles from its source. In 1948, in order to prevent lower Bodcau agricultural lands from flooding, the U. S. Corps of Engineers erected a large earthen dam and water control structure across the bottom just north of Bellevue, Louisiana. From the site of this dam northward the bottom averages about one mile in width and comprises about 20,000 acres. This area is located in Bossier and Webster parishes from Bellevue to the Arkansas border.

The Bodcau drainage system usually has one main channel with several parallel secondary channels. The secondary channels are usually dry during most of the year, but there is generally water in the main channel throughout the entire year. This water supply is one of the main ingredients which helps make Bodcau Bottom a wonderful wild game habitat. Dense stands of mature and willow oaks occur between the many secondary channels in the bottom. A large part of the forested area of Bodcau is composed of mature pin oak flats, cypress makes up a smaller part along with overcup oak, bitter pecan, ash, hackberry, and willow. Also located on the higher ridges which extend from bordering hills into the bottom are loblolly pine with a mixture of hardwoods. There are dense stands of haw, buttonbush, and swamp privet in the main bottom. The entire bottom is heavily grazed by both cattle and hogs; consequently, the understory vegetation is greatly reduced. During late winter and early spring, the rainwater held back by the water control structure usually floods

the entire bottom to a distance of about two miles north of the Corps of Engineers' dam. This annual flooding coupled with intensive grazing tends to hold back the growth of understory.

"Understory" is the term used by foresters and biologists to designate the vines, weeds, shrubs, and various plants that grow beneath the cover of trees. In Mexico, coffee is sometimes grown as an understory plant.

The Louisiana Wild Life and Fisheries commission has obtained a license from the Corps of Engineers for the purpose of conducting necessary game management practices toward this end. The commission game biologists have studied the area and have begun an extensive game management program. Personnel of the commission have recently completed a small earthen dam about one mile long and ten feet high across the bottom approximately three miles north of the Engineers' dam. This dam was constructed for the purpose of duck management. The objective of the dam is to hold water at a desirable depth over the oak flats for optimum feeding conditions, which will in turn make for good duck hunting for the public. The Wild Life and Fisheries' dam has a concrete control structure with three 6-foot openings, which can be made to hold water at any desired depth. Located at the west end of the dam is a 1,000-foot wide spillway. The dam is designed to hold enough water to flood about 1,200 acres of pin oak flats to an average depth of about eight inches. It is the plan of the Louisiana Wild Life and Fisheries commission to begin flooding the area prior to the arrival of ducks each fall and to drain the area about the end of January each year. During the summer months when the bottom is dry, several large food plots will be



planted. These food plots will be utilized by several species of wild game during the winter months.

One 20-acre food plot was planted to brown top millet, which produced an abundance of seed for the 1958-59 wintering waterfowl. Another 60-acre plot is in the process of being fenced and will be planted to foods suitable for ducks, doves and quail. It is believed that some ducks which normally winter elsewhere will winter on Bodcau in the future. The area furnished good duck hunting during the 1958-59 season and hunting success is expected to increase during the coming years.

Present plans call for the introduction of native duck food plants such as smartweeds, chufa and others. A fair stand of smartweed has been produced on one of the food plots as a result of broadcasting seed over the area during the summer. Good dove and quail foods such as buckwheat, corn and soybeans will be planted on the higher areas.

Squirrel hunting in Bodcau Bottom is usually very good. Due probably to a poor acorn crop in 1957, and a scarcity of food during the summer, there were very few young squirrel produced in 1958. This resulted in below average squirrel hunting success during the 1958-59 season.

Deer are increasing in and around the area. There have been two deer releases, one in 1955 and one in 1956, in the vicinity of Bodcau Bottom. It is not uncommonly new for one to see deer during visits to the area. A deer hunting season is planned for the area in the near future.

This area is a good wild turkey habitat and it is planned to introduce this magnificent game bird on the area as soon as possible.

Along the transition zone of Bodcau, where the hills end and the bottoms begin, are large fields that were once cultivated. Disking such areas increases the growth and spread of goatweed and other good game foods. It is planned to fence and plant some of these areas to such game foods as vetch, chocolate weed, common lespedeza, corn and others. These open areas already support a fair population of doves and quail, but with the addition of the proposed food plots the carrying capacity of these areas will be increased.

Hunter success is another important feature of the overall plan. A road system is being built that will

enable hunters to get in and out of the area at all times. Boat roads, to be used by duck hunters when the area is flooded, are also planned and will be built when dry weather permits. Public camping sites will be located in desirable locations on the area.

Although this is primarily a hunting area, fishing is also an attraction. During the spring and summer, many people fish at the water outlet on the flood control dam. Flood waters spreading over the woods and fields make ideal spawning grounds for game fish. When the flood waters start receding, bream and bass fishing is usually good. Bass fishing was especially good, during the fall of 1958, at the site of the new water control structure on the waterfowl area dam.

This Game Management area probably provides more hunting opportunity than any other area in the state. Approximately 10,000 hunts are made each year. From the month of September, with the opening of the dove season, until the end of the quail season in February, this area is available to hunters. The importance of Bodcau to sportsmen of Northwest Louisiana is ever-increasing because each year as the number of hunters increase, the available hunting lands decrease. This area is located near population centers with large numbers of hunters and therefore many people will benefit from every dollar spent in developing these lands. There is no other public area in the state where such a variety of game may be hunted. The development work is just beginning. Each year should see further expansion of the program. It will, of course, be impossible to provide every hunter or fisherman with a limit of game or fish, but every outdoorsman will have an opportunity to get out and enjoy his favorite sport with a bare minimum of restrictions.

There is a crying need for many more areas such as Bodcau throughout the state. Traditional American free hunting is fast disappearing. The coastal marshes and the Mississippi and Red River Bottoms, to a large extent, are posted with "NO TRESPASSING" signs. We are drawing closer all the time to a similar situation to that which exists in Europe where only the privileged few can hunt and fish. Therefore, it is felt by many that every sportsman should support the development and maintenance of public hunting and fishing areas in every part of the state.



Goat weed field for Doves.



Waterfowl hunters in oak flats.

The Marsh Dandy



RED-WINGED BLACKBIRD

Angelaisus Phoeniceus

Hannah Yates

THE MALE REDWING blackbirds are very proud of their shining black uniforms with their scarlet epaulets, and vie with each other, bowing and spreading wings and tails, displaying all of their manliness to impress the dusky comparatively quakerish ladies of the species.

The Red-wing is about 9½ inches long, completely black except the bright red shoulder patches—thus the adult male is identified. The females are less conspicuous, being a grayish drab brown, and the young resemble the mother until nearing maturity.

Primarily, this blackbird is a marsh lover, breeding in swampy areas and lowlands. They nest in reeds, amid marsh lilies, or on a tussock of grass, but at times low bushes will suffice.

Normally 3 to 5 eggs are a clutch, pale bluish green with various spots, blotches, and lines of brown and black.

Red-wing is an abundant permanent resident of Louisiana, however, during the migratory season many of his relatives from other sections of the country join him in enormous flocks and on occasion range toward upland country when seeking food, together with cowbirds, grackles and bobolinks. His cheery song, "conkaree" is the song of spring and summer, but the call note is a harsh "chunk."

Worms, grubs, canker worms, tent caterpillars, grasshoppers, weevils, beetles, flies, ants and most all kinds of bugs, are summer foods but in winter it feeds on weed seeds, grain in the rice fields and, when extremely numerous, it may do much damage to cultivated crops. For this reason, in many places, these birds are destroyed in great numbers, however, the good they do exceeds by far the bad, as is the case with virtually all of our native birds. Also, by our standards, Red-wing moralities do have their flaws, the male is a bigamist, and often entices more than one mate to share his chosen marsh and may

have two or three devoted wives, but again, unlike the human race, there are no jealousies and family life seems singularly free of dissensions, fussing with neighboring families rarely occur for each seems to respect the other's territory.

The males stand watchful guard over the nests, alert to drive away natural enemies and even voice bold and noisy protests if humans approach too closely.

There are other names for this species of Red-winged blackbird, whose distribution is throughout the United States and more southern British provinces to about a latitude of 62 degrees, except Florida and the Gulf coast; west to the eastern base of the United States. In some localities he is known as the Swamp blackbird; Red-winged starling; Red-shouldered starling; Red-shouldered blackbird; Marsh blackbird; red-winged oriole; and Red-wing.

The head of the family bears the family name Red-wing. The others are: The Sonora Red-wing, found in southern California and southern Arizona; the Bahama Red-wing, distributed over the southeastern coast of Florida, Florida Keys to Key West, and the Bahamas; the Florida Red-wing, found in Florida (except the southeastern coast and keys) and west along the Gulf coast to Texas; the Thick-billed Red-wing, central North America, from Mackenzie and southern Keewatin south to northeastern Colorado and northern Texas and wandering eastward occasionally; the San Diego Red-wing, breeding from eastern British Columbia south to Lower California, New Mexico, and western Texas; the Northwestern Red-wing, found along the Pacific coast from British Columbia to Mendocino county, California; and the Vera Cruz Red-wing, distributed along the southern coast and through the lower Rio Grande valley of Texas south through eastern Mexico to Central America.

Kingfish

BLONDE

And

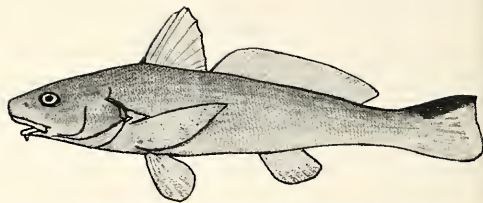
BRUNETTE

Percy Viosca, Jr.

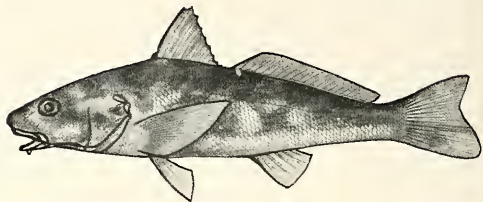
PERSONS WHO FREQUENT the coastal waters of Louisiana are familiar with a rather plentiful fish which they call by one or more of several names. It may be called black mullet, ground mullet, or channel mullet, or it may be kingfish, whiting, king-whiting, surf whiting, sand whiting, or whatnot. Certainly, the use of so many names for a single species results in a bit of confusion, or perhaps they are the result of a bit of confusion. What we cannot understand is why in the world should a dusky, black-barred fish be called by such a pallid name as whiting (king or no king)?

"Black mullet" refers, no doubt, to the dark color of the fish as it normally appears when taken from our waters; "ground mullet", to its bottom habitat. "Channel mullet" obviously refers to the favorite places for angling for this fish, such as the passes and cuts at the inlets to bays, or in the channels of the so-called salt water bayous leading from one bay to another. Anyhow, it is a bottom species, in contrast to the true mullets (both striped and white) which are frequently seen swimming and feeding near the surface, and even leaping clear of the water, either in fun or when trying to escape an enemy. Louisianians are wrong in calling this fish a "mullet", for it is a member of the croaker family, but they certainly know the colors and habitats of their fishes, even if they do not know their Latin names or places in the academic classification.

The "List of Common and Scientific Names of the Better Known Fishes of the United States and Canada", put out by the American Fisheries Society, has failed to suggest a common name for this plentiful species or for two of its close relatives sometimes found in the same general area, though not necessarily in the same habitat. The three related species are simply lumped together under a single hyphenated common name, "king-whiting", adding to the confu-



The Gulf Kingfish or Surf Whiting? *Menticirrhus littoralis*



Southern Kingfish or Channel Mullet? *Menticirrhus americanus*

sion already existing in the minds of commercial and sport fishermen. So, let us hope the following remarks will tend to straighten out some of the confusion, although no attempt will be made herein to suggest an appropriate common name for the species.

Let us consider the overall picture. The various species of kingfishes, whittings, or king-whittings, whichever you prefer, all have certain characteristics in common, notably a single prominent barbel under the chin, hence the Latin designation for the genus, *Menticirrhus*, from the Latin *mentum*, chin; and *cirrhus*, barbel. Although classified in the croaker family (SCIAENIDAE), they differ from the true croakers in that they lack an air bladder and are therefore without voice. They are all bottom fishes with low, well-streamlined, elongate forms, relatively large pectoral fins, and small mouths.

In the coastal waters bordering on the continental United States, there are four distinct species of these barbel-bearing, croaker-like fishes which bear the generic name, *Menticirrhus*. Three are in the western North Atlantic and/or Gulf of Mexico, and a fourth ranges in the east central Pacific as far north as southern California. Southward along the eastern and western coasts of Mexico, Central and South America, and in the West Indies, additional species can be added to the list.

The only Pacific species which ranges into California is generally called by its Spanish designation, "corbina." Those of you who fish at Acapulco should find it there. I have eaten it in Costa Rica and can truly say it is a choice table species. The Pacific coast corbina grows to a larger size than its relatives of the Gulf and North Atlantic waters.

Of the three Atlantic-Gulf species of the genus *Menticirrhus*, there is one listed in Charles M. Breder's "Field Book of Marine Fishes of the Atlantic Coast" as "northern kingfish." This bears the Latin name *Menticirrhus saxatilis* (from the Latin *saxatilis*, pertaining to rocks). It is reported to be plentiful only north of Chesapeake Bay. It would not concern us in Louisiana were it not reported as a straggler as far

south as Key West, and even at Pensacola. Should this northerner ever stray into our waters, it can be distinguished from our "channel" or "ground" mullet, which it closely resembles, by the extremely long third spine of the first back fin, which gives this fin a sail-like appearance. Folded back, this spine reaches well past the front end of the second back fin, which is not the case with our more southerly ranging "channel mullet."

The two remaining species of North American "kingfishes" are truly indigenous to the waters of the northern Gulf, and both are found in Louisiana. One is the dark-colored "southern kingfish" of Breeder's field book, better known in Louisiana as the "channel mullet." The other is a silvery-white species known chiefly from the surf and sand spits around the Chandeleur Islands. This is listed by Breeder as the "Gulf kingfish." The darker, better known species will be discussed first.

Breeder's Field Book lists this species under the common name "southern kingfish." The ichthyologist's bible, Jordan and Evermann's "Fishes of North America", on the other hand, mentions two common names, both different from Breeder's, "Carolina whiting" and "sand whiting." Of course, it would be natural for Louisianians to object to the terms "Carolina" and "sand" in reference to a fish so plentiful over the mud bottoms of their state. "Whiting" would also confuse them because of the dark color and mottling of their fish.

Breeder's suggestion, "southern kingfish", is confusing because the species occupies almost the same general range as his next mentioned "Gulf kingfish" (*Menticirrhus littoralis*), the one we find at the Chandeleurs. Actually, both are found in the Atlantic and both are found in the Gulf, and both are "southern" in the usual sense of the term as related to the United States.

Breeder's further statement that the "Gulf kingfish" replaces the "southern kingfish" largely in the Gulf of Mexico is simply not true for Louisiana waters, as thousands of salt water commercial and sport fishermen can readily testify. On the other hand, we cannot quarrel with the experts who would object to our local designations "black, ground or channel mullet" because the fish is really not a mullet but a voiceless offshoot of the croaker family. The word "kingfish" is also confusing because it is frequently used in reference to the king mackerel. Perhaps we shall have to request Amos and Andy to persuade the *Kingfish*, himself, to render a learned decision to end the confusion.

Regardless of its name, the species we dub the "channel" or "ground" mullet ranges along the Atlantic Coast from Jersey down to Florida, and along the Gulf coast, westward and southward, into Mexico. It feeds on the bottom in open water, especially around deltas and in estuaries where the salinity is in the medium range. Its movements may carry it over shell reefs, dead or living oyster reefs, and through connecting channels.

The "channel mullet" is usually very dark above, shading to grayish silvery on the sides and silvery white below. The color, however, is changeable, and no doubt varies according to the amount of light penetrating the water at a given time and place. On dark

days and in deep water, the fish would normally appear darker than on bright days or in shallow water. The camouflage of the species is further enhanced by the presence of a series of dusky mottlings extending downward from the back to the sides. The first pair appears as a saddle over the back between the head and the first back fin. The remainder extend from near the back fins to below the lateral line along the sides. It is easy to understand how these markings render the fish less visible over a shell reef, or when ripples on the surface make the bottom appear mottled.

The commercial take of this fish is largely a by-product of the trawler fisheries, both for shrimp and for industrial fishes, therefore, it is relatively low in price. This does not detract from its quality provided it has been properly handled before reaching the markets. If you see a sign along one of the coastal highways, "All the Fish You Can Eat for One Dollar", the chances are that it is this species. It might be well to ask, for otherwise you may be missing a real treat. Because of its firm, delicate, white meat, the flesh of the "channel mullet" is said to be mixed at times with the more costly meat of the blue crab for the making of stuffed crabs, or seafood croquettes.

The "channel mullet" is most frequently taken by anglers while fishing for mixed bottom species in the channels of bays and estuaries and their connecting waters. Being partial to waters of medium salinity, it cannot penetrate as far into low salinity waters as do its chief associates, the croaker, drum, flounder, sheepshead, redfish, striped mullet, blue crab, and white shrimp. However, towards the end of summer, when salt water usually wedges its way farther inland than at other times, it can sometimes be taken in the inner lakes and upper parts of estuaries.

The "channel" or "ground" mullet feeds along the bottom; on shrimp, crabs, molluscs and fish, usually of small sizes. It detects these largely by smell rather than sight. Therefore, dead shrimp will make an equally effective or better bait than live shrimp. Broken or peeled shrimp are more effective than whole or unshelled shrimp, because the flavor will enter the water in greater concentration. Fishing in a current is better than in still water for the flavor of the bait can be detected from a greater distance and the fish will follow it like a pack of hound dogs. When there is no current, a good plan is to row or paddle slowly or let the boat drift with the wind until a school of fish is located, then drop anchor and fish until they stop biting, repeating as required. Artificial lures are of little value, although the species is occasionally taken on small lures.

The "channel mullet" puts up a good fight, equal to that of a croaker or redfish or similar size. However, as it rarely reaches a length of fifteen inches and weight of two pounds, light tackle will give more "units of satisfaction" to the angler, although heavy tackle will put more food on the table.

The "surf whiting" *("Gulf kingfish" of Breeder's Field Book) can now be definitely added to Louisiana's list of food and game fishes. The writer has

(Please turn to page 20)

*These comments are based on incomplete data and must be regarded in the nature of a progress report. Information is solicited from readers familiar with this species or the true bonefish in Louisiana waters. Our studies will continue.



IT'S CRAWFISH

PH

For more than 200 years, Louisiana crawfish have been one of the delicacies of Louisiana cuisine, but most of all, the obtaining of them is a sport that may be enjoyed by young and old, male and female, rich and poor, in a greater part of the state during the late winter and spring months.

In five of the first six pictures by Hurley Campbell, an ardent "crawfisherman", Herbert Ducote, President of the Baton Rouge Sportsmen's League, shows how the "mudbug", an object of awe and speculation by tourists, is taken by commercial fishermen who bring around 1,200,000 pounds to the markets each season.

1. Ducote, who incidentally is not a commercial crawfisherman, shows how the crawfish trap, which is a cage of wire mesh and a modification of the minnow trap, is baited. 2. Ducote closes trap showing its dimensions. 3. Sets out trap in flooded swamplands; traps are sometimes lowered to a depth of ten feet. 4. After being down several hours the trap is lifted showing a catch. 5. Crawfish are transferred to gunny sack which will afford plenty of air and allow the delicacies to reach their desti-





IN LOUISIANA

enbell

nation in good shape. 6. Craig Campbell, demonstrates that they're almost never too young to take an interest in the mudbugs.

Louisiana, of course, has no complete monopoly on crawfish eating, but nowhere else in the world are crawfish eaten in the amount they are devoured in the southern part of the state, and, although now they may be considered a seasonal delicacy, sufficiently expensive to be included on the menus of our finest food emporiums, they have never lost their popularity with the general populace.

7. Witness these two old timers who have taken the day off and thus equipped with their chip basket and Creole nets, they will catch a batch from the edge of this cypress swamp which abuts the roadside. You may be sure that a real old time "crawfish boil" is in the offing and will be accompanied congenially with the traditional refreshments. 8. This is the famed creole crawfish net which is a miniature modification of the Chinese net which has been used for thousands of years by Chinese fishermen.



Rodeo

Roundup

Houma — Terrebonne

Steve Kenney, Jr.

Houma Courier Outdoors Editor

THE FISHING SPOTLIGHT will shine on Terrebonne parish June 13 and 14 as anglers from all sections of the state are expected to converge on this coastal area for the fourth annual Houma Knights of Columbus Salt Water Fishing Rodeo.

The event is open to all Louisiana anglers and will feature a star-studded array of eight trophies and 21 prizes. Eligible fish include reds, speckled trout, tarpon, sheepshead and drum. A trophy will be given the winner of each class and prizes will be awarded to the second, third and fourth place winners of each division.

A special prize has been designated for the person entering the largest salt water catfish.

In addition to the specific awards, the Grand Knights' trophy will be given the person judged as the best-all-around fisherman, a trophy will be awarded to the outstanding angler in the boy's junior division and the junior girl's division. This group includes participants under the age of 18 years.

The entrance prize list includes, first, 16-foot hull, trailer and 50-horsepower outboard motor; second, a 10-horsepower outboard motor; third, a three-horsepower outboard motor; fourth, a three-horsepower outboard motor, and fifth, a three-horsepower outboard motor.

Tickets are on sale now and have been priced at \$3 each. This fee includes the purchase of an attractive fishing cap. Anglers may register with any member of the Houma Knights of Columbus Council or at any sporting goods store or fishing camp in Terrebonne parish.

The affair is slated to start at sunrise on June 13 and will be climaxed at 7 p.m. June 14 with the presentation of awards. Headquarters will be located in



Formulating plans for the coming annual Grand Isle Tarpon Rodeo are seen, left to right, Brigadier General Raymond Hufft, president of the Grand Isle Tarpon Rodeo association, P. J. McMahon, outgoing president and Urban Wilkinson, a former president who is General Chairman. The trio are seen at the association's annual banquet which was held earlier this year.

the American Legion park in Houma.

Arrangements have been made to have a special fisherman's Mass celebrated at 3 a.m. Sunday. The service will be held in St. Joseph's Church in Chauvin, 12 miles south of Houma on Bayou Little Caillou.

All fish entered in prize competition must be caught during the rodeo, must be dressed in the presence of the judges and must be caught in the coastal waters of Terrebonne parish. Winners will be determined by the weight only, except in the case of a tie the length will determine the top entry.

Fish can be taken only by hand line, rod and reel, or cane pole.

Council members hope to have a registration of 3,500 fishermen in this year's event. Rodeos of the past have attracted 1,300, 1,600 and 2,100 anglers.

Proceeds derived from the rodeo will be channeled into the State Knights of Columbus Youth Activities fund and the Houma Council charity fund.

Frank Lofaso is general chairman of this year's event, Sidney "Zeke" Caillout and Norman Vice are ticket sales chairman, Junius Pontiff, prize committee chairman; John Gordon, publicity chairman; George Rome, treasurer, Johnny Crispino, arrangements and permits; Ned Picou, concessions; Merlin Bascle, rules and awards.

Cameron

Red Kohnke

Lake Charles American Press Outdoors Editor

VIEWED FROM all sides, this year's Deep Sea Fishing Rodeo off the coast of Cameron parish promises to outdo all past planning and expectations with officials already finalizing plans for the

annual sportsman's leading outdoor event of Southwest Louisiana.

Sponsored by the Southwest Louisiana Fishing Club, Inc., the fishing competition will be held July 3, 4, and 5 with headquarters in the town of Cameron on the Gulf of Mexico.

Officials have announced that the prize list should reach or, perhaps, surpass \$5,000 in retail value with the Grand Prize being a \$200 Savings Bond.

President George McNees of Lake Charles said there will be a total of 59 prizes offered this year ranging from fishing reels to outboard motors. Prizes are awarded for first, second and third place fish in each eligible species (both deep sea and inland waters divisions); for first, second and third in the boat division; for three places in both the ladies and junior divisions and for top spot in the best angler division, in addition to the Grand Prize.

With a constant increase in attendance, officials estimate this year's competition will attract some 500 anglers. Last year, over 400 contestants participated in the fishing event out of Cameron.

Eligible fish in the deep sea division are Tarpon, Sailfish, grouper or Jewfish, Cobia (Ling), Bonito, Jackfish, Spanish Mackerel, Dolphin, King Mackerel, Blue Fish and Barracuda. Eligible inland waters fish are Speckled Trout, Red Fish, Salt Water Drum, Gaff Top Catfish, Flounder and Sheephead.

All participating sportsmen must register with the club with fishing to be started not before 5 a.m. each day. Boats are not allowed to leave prior to 5 a.m. and eligible fish can be presented for weighing until 7 p.m. except on the closing day of the rodeo when the scales close at 5 p.m.

Although contestants may fish anywhere in the Gulf, all boats must leave from Cameron in order to be eligible in the rodeo. This point has been stressed by rodeo officials.

Entrance fee is \$6. Each year the club publishes an official program which will be made available to participants. The publication will list detailed rules which should be checked prior to fishing.

Besides McNees, other officers are Hudson C. East, vice president and Marshall Smith, secretary-treasurer. Committee assignments include the following:

Judges, Marshall Smith, Joe Black and John Van Norman; Housing, Graves Castle, Cecil Clark and Conway LeBleu; Rules, Wendel Lindsey, Belin Landry and the judges; Boats, Jack Short; Prizes, Hudson C. East, Ralph Liles, George McNees and Belin Landry; Entertainment, Graves Castle, Belin Landry, George Dewey, Bill Watson and Max Packman; Publicity, Joseph W. Jackson, Truman Stacey, Rollie Rowland and Red Kohnke and Membership, the board of directors.

Taking an active part in this year's rodeo, people of the town and parish of Cameron have arranged a full program of entertainment for rodeo participants and visitors during the three-day period.

The following program has been announced:

July 3—Dance, water show, skeet shooting, and a fish fry and crab boil.

July 4—ball game, annual shrimp boil and street dance.

July 5—midway amusements for children.

Chairman of the Cameron special events is Dr. Cecil Clark.

Grand Isle

OFFICIALS OF THE Grand Isle Tarpon Rodeo association are looking forward to the largest annual renewal of this internationally famous fishing contest and the event, which has been drawing more than two thousand registrants from all over the country annually, is expected to break all records in 1959, according to Major General Raymond Hufft, president, and Urban Wilkinson, general chairman for the event.

According to Wilkinson and Hufft, the reason for the expected increase in registration may be based on the numbers of inquiries that have been coming in from all over the state and the nation concerning the rodeo which is to be held July 16, 17 and 18.

Rodeo headquarters will be located at Millet's Landing Wharf where there will be the usual bustle and activity each day from dawn until well after dark when the skippers and crews of more than 500 outboard motor boats, trawlers, cruisers, and palatial yachts return with their prize catches for weighing, judging, photographing and display. Last year it was estimated that there were more than 6,000 persons present for the prize-winning awards, which topped the \$25,000 mark in monetary value.

This year's prize list will be even greater than last, with the big award being a new automobile as in the past. Although the rodeo will not commence until sunrise of the morning of July 16, traditionally actual rodeo festivities will begin on the day previous when the rodeo fleet assembles at Kammer's Landing at Lafitte, at 10 o'clock in the morning. The party is always in the form of a birthday celebration for the rodeo and the cutting of a huge cake is a feature. And, of course, there is always the camaraderie, high jinks, and boasting as occurs when all good sportsmen get together before the fleet sails for the island at 1:00 p.m., to begin the real contest in earnest and in good spirits.

When the fleet arrives at the island a prize, donated by the Golden Meadow Power Squadron, will be awarded to the best decorated vessel arriving. This will be followed by the annual crab boil which will be an outstanding feature of the festivities held at rodeo headquarters. This event usually attracts thousands of visitors and old friendships are renewed.

"The area around Millet's Landing has been blacktopped and another area in the rear has been filled in with sand and is now being covered with barge-loads of shell. The two will afford even larger and more convenient accommodations for the automobilists," Chairman Wilkinson said.

On hand, at headquarters, besides General Hufft, Urban Wilkinson and members of other committees, will be: Oscar Turlington, 1st Vice-President; Thomas J. Bradshaw, 2nd Vice-President; Dr. William A. Wagner, Honorary Vice-President; Lucien Bonck, Honorary Vice-President; L. H. Perez, Jr., Honorary Vice-President; Wm. S. Coci, Sheriff of Jefferson parish, and Honorary Vice-President; Hon. Herbert W. Christenberry, Honorary Vice-President; Frank A. Vonder Haar, Jr., Secretary; P. A. Davis, Treasurer; Dr. Don L. Peterson, Assistant General Chairman; and Hon. Walter B. Hamlin, Committees Coordinator.



Shrimp Fisheries Research

THE FINDINGS of a special committee appointed by the Gulf States Marine Fisheries commission to revise an earlier bulletin on the shrimp fisheries of the Gulf of Mexico have been made public by the Louisiana Wild Life and Fisheries commission, according to James N. McConnell, Chief of the Oysters, Water Bottoms and Seafood division.

The bulletin, which is entitled "The Shrimp Fishery of the Gulf of Mexico" and is catalogued as Informational Series No. 2, contains biological notes and recommendations of four of the leading shrimp biologists of the Gulf states and is a condensed compendium of their experience over forty years in this work and should be most useful as a basis for the development of future laws and regulations pertaining to the shrimp fishery of the various states involved in the shrimp industry, McConnell said.

On the committee for the area which embraces the area of the Gulf of Mexico from the Rio Grande river to St. Marks, Florida, are Percy Viosca, Jr., Louisiana Wild Life and Fisheries commission; Albert Collier, A & M College of Texas Laboratory, Galveston, Texas; Robert M. Ingle, Florida State Board of Conservation, Tallahassee, Florida; and Gordon Gunter, Gulf Coast Research Laboratory, Ocean Springs, Mississippi.

The report said:

"Recommendations such as those presented here were taken from scientific knowledge of the organisms concerned. The ideal of a complete knowledge of this subject may never be attained. However, in the meantime, the demand for shrimp and the encroachment of our industrial civilization upon the coastal environment constitute increasing threats to the stability of this resource. Therefore we offer our best thinking in terms of existing knowledge. In the past several years production of brown shrimp in the area from the Rio Grande River to St. Marks, Florida, has exceeded that of other species. There are sufficient differences in

the biology of the white shrimp and the brown shrimp to require that they be treated separately rather than collectively. The pink shrimp, of lesser commercial importance in the subject area, is not being treated in this publication.

"We would like to add an additional comment on the attitude of the fishery biologist in recommending regulations. Strictly speaking a conservation measure should be written purely in terms of the known biology of the species concerned, but this is rarely feasible because of the vicissitudes of enforcement in the field and considerations of equity where different economic and social strata are involved. These items are outside the purview of the biologist," the report said.

"Recommendations such as are presented here should come as a proper synthesis of ideas originating in the minds of the fishery biologist, the fishery in-

dustrialist, and the fishery administrator. This committee did its best to recognize all the needs of the fishery, but because of its reluctance to assume knowledge of law enforcement limitations, the needs of industry, and the sociological makeup of the industry population, the results given here lean strongly on purely biological premises," it further stated.

The following biological notes pertaining to the White Shrimp were offered:

"The life history of the white shrimp, *Penaeus setiferus*, we consider to be fundamental for the framing of regulations of the fishery because:

"1. Most spawning occurs from April through August in the offshore (we define nursery areas for this species to be those areas landward of the three fathom line, and offshore waters to be those seaward of the three fathom line, in the Gulf of Mexico) waters. The eggs are laid directly into the water and are not carried by the female. A female shrimp will lay between 500,000 and 1,000,000 eggs at a spawning.

"2. The eggs hatch within a few hours and the young become part of the plankton, being carried about by oceanic currents. Only those young survive which are carried into favorable nursery areas in relatively fresh estuarine waters.

"3. In Louisiana, Mississippi, and Alabama the young appear in abundance on the inside fishing grounds by mid-June; in Texas and west Florida by mid-July. In the nursery areas during the summer the young shrimp as individuals grow very rapidly, generally increasing their weight more than four times each month.

"4. The larger shrimp eventually find their way to the spawning grounds in offshore waters of higher salinity.

"5. As winter approaches, the larger shrimp move from nursery grounds to offshore waters, leaving the smaller shrimp in the nursery areas, where growth is retarded by lower temperatures.

"6. With the advent of spring and the warming of the waters, the small shrimp which wintered over in the nursery areas resume a very rapid rate of growth, and consequently they move to the offshore waters where spawning takes place. At their first spawning period, these shrimp are approximately one year old."

Concerning the brown shrimp, the report says:

"Although research on the brown shrimp, *Penaeus aztecus*, has not yet produced information comparable to that available for the white species, the following statements can be made at this time:

"1. Spawning definitely precedes that of the white shrimp, usually by two to three months. It occurs farther offshore.

"2. As far as is known growth rates approximate those of the white shrimp.

"3. Brown shrimp leave the nursery grounds at a smaller size than the white shrimp. This migration takes place sometime during the period May through September, the time varying somewhat according to locality.

"4. The adults are active at night, apparently burying themselves during the day. The smaller sizes found in the nursery areas do not seem to be as strongly nocturnal."

The committee made the following recommendations:

"The unexpected and unexplained drop in white shrimp production gives reason to pause about the idea that the size of spawning stock is not related to the resulting crop and requires no protection. Since we have no information on which to establish the need for regulations to protect the spawning stock, to say nothing of formulating them, the recommendations which follow are based only upon the assumption that it is advantageous to protect the small shrimp.

"CLOSED SEASONS—NURSERY AREAS

"White Shrimp: The first closed season for nursery areas should be, for the area east of the Louisiana-Texas boundary, to and including St. Marks, Florida, from July 1 to August 31 (both dates inclusive). The closed season for the nursery areas of Texas should be from July 15 to September 15 (both dates inclusive).

"The second closed season for the nursery areas in all states should be from November 1 of one year to March 31 (both dates inclusive) of the following year.

"The first closed season is suggested to protect the small shrimp during the period of their most rapid growth. The different season suggested for Texas waters results from the fact pointed out above that there the young shrimp appear later in the nursery areas.

"The second closed season is suggested for the purpose of protecting the small shrimp that are wintering over in the nursery areas. These shrimp produce the spring run.

"Brown Shrimp: When the migrations of young brown shrimp in all of the Gulf states are considered as a whole, a universal closed season for conserving the young would be from March 1 through April 30 (both dates inclusive). On going from state to state the opening date could be delayed a month or more as required.

"Offshore Waters

"White Shrimp: The offshore waters should remain

open to fishing in all states throughout the entire year. Generally, small individuals do not predominate in the shrimp population in offshore waters.

"Brown Shrimp: In recent years there have been cases of excessive catches of unduly small shrimp by trawlers operating in offshore waters. At this time we can only recommend that the possibility of discretionary regulation and its consequences be carefully studied by those concerned. See below:

"Note: Time and dates shown for white and brown shrimp are only approximate for Florida which has already adopted the system of regulation recommended in the concluding comments below.

"White and Brown Shrimp: We recommend no size limits and that those now in effect be abolished.

"When a size limit is imposed the basic purpose of the regulation is defeated by culling. Shrimp smaller than the legal size which have been killed in the fishing operation are discarded. The closed seasons recommended above, IF STRICTLY ENFORCED, should provide adequate controls. While of no biological significance it is a fact that size limits are difficult to enforce, which further detracts from their usefulness.

"Night Fishing

"White and Brown Shrimp: Night fishing should be permitted in all waters during open seasons.

"Gear

"White and Brown Shrimp: No limitations are suggested on size of trawls. We have no evidence that trawling is harmful or beneficial to the bottoms. The criticism that large trawls take an undue quantity of shrimp from the inside waters is not sound since it makes no difference to the shrimp population whether or not the shrimp are caught by a large or a small trawl. Competition between units of the fleet is an economic rather than a biological problem. Again we believe that the recommended closed seasons properly enforced should suffice for adequate control.

"The size of mesh used in a trawl controls to a marked degree the size of shrimp caught. Where enforcement is feasible, mesh regulations are useful.

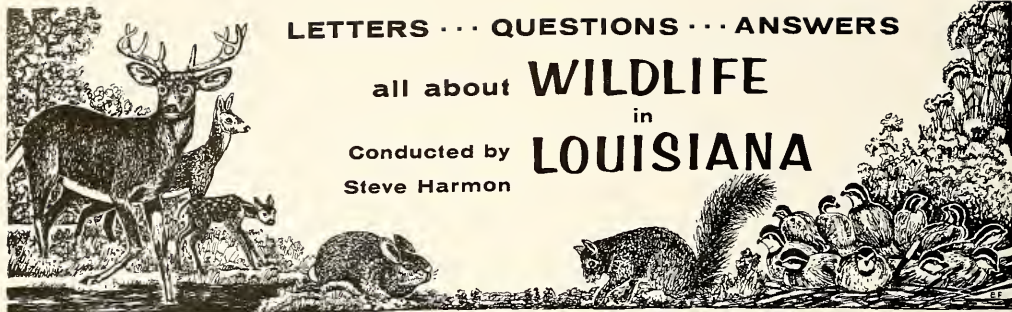
"Bait Shrimp

"The problems of the LIVE bait shrimp fishery should be recognized as being separate and distinct from those of the commercial food shrimp fishery."

In its concluding comment, the committee states:

"One of the Gulf states has been opening and closing some of its waters according to the prevailing size of the shrimp as determined by sampling the population. Elsewhere a segment of the industry itself has taken the initiative in promoting the enactment of legislation which is intended to prevent undesirable destruction of small brown shrimp, and which incidentally would reduce the fishing pressure on white shrimp during spawning. If adopted by the legislature of the state concerned, the proposed act would provide limited discretionary regulation by its conservation agency. Both of these programs are admittedly experimental in nature, the latter more so than the former.

"This type of 'trial and error' regulation was suggested a number of years ago, and we believe that it can be very useful, provided it is developed in the light of existing scientific knowledge and calls for its own evaluation by a properly planned and concurrent biological program."



LETTERS . . . QUESTIONS . . . ANSWERS

all about WILDLIFE in LOUISIANA

Conducted by
Steve Harmon

Dear Editor:

I am taking the liberty of enclosing a copy of the first publication in the State devoted to Bowhunting. The Louisiana Bowhunters Association is composed of sportsman archers from many sections of the state. A very surprising number of them are people who have taken a fair share of game with the gun and have turned to the bow as a new challenge.

It is suprising how little we knew about hunting. Believe me, those of us who have been hunting with the bow for three seasons now are just beginners in the art of stalking.

We would appreciate very much, your publishing the name of our secretary so that sportsman bowhunters might contact him regarding membership in our organization.

Thanks a lot. Sincerely, J. L. Sudduth, Pres. L. B. A., 310 N. Allen, Jonesboro, Louisiana.

The Secretary of the Louisiana Bowhunters Association is Jimmie Edwards, 424 West 6th. Street, Jonesboro, Louisiana.

Dear Editor:

I am sending a picture of a gar I caught in Swazy Bayou near Palmetto in February, 1959. It weighed



130 pounds and was caught on a large hook with a piece of old meat. Martin A. Moore, Alexandria, La.

Dear Editor:

Need back copies of the LOUISIANA CONSERVATIONIST to complete collection.

Would appreciate it if any person would supply me with the following back issues: December, 1948; September, 1951; July-August, 1955; and February, 1956.

Will gladly swap extra copies I have for the ones I need or pay a reasonable price. Thanks. Sincerely, Herbert Ducote, President, BATON ROUGE SPORTSMEN'S LEAGE.

Dear Editor:

I read in one of your books where Fox Squirrels are getting fewer every year. They have the summer to raise and people don't hunt them very much anymore. I would like for you to send me any information on why the Fox Squirrels are getting fewer. Very truly yours, Kenneth Warren Smith.

I am afraid you have the wrong idea about the squirrel situation in Louisiana. In the first place, squirrels are our most popular game species; that is, more days are spent in squirrel hunting than in hunting any other type of game that we have, and more squirrels are killed each year than any other game animal or bird. Over half of the hunters in the state hunt squirrels and the seasonal average kill, as shown by the Statistical Survey of Game and Fish Harvest and Management Data, runs well over 20 squirrels per hunter.

The local abundance depends on several factors, probably the most important of which is the mast crop (acorns, beechnuts, etc.) not only for the present season but also for the preceding year. Squirrels need both mast trees and den trees to supply them with good living conditions.

Changing types of agricultural development and suburban and industrial development are gradually decreasing our suitable habitat for many game species, and in such cases we can naturally expect the affected species to show a corresponding decrease in numbers.

Squirrels, quail and rabbits are all subject to wide variations; that is, population can be expected to fluctuate yearly going from low to high and back again in the space of a very few years depending on conditions. Variation can also be expected between one part of the state and another part, if conditions differ widely between the two locations. /s/ Charles R. Shaw.

Dear Editor:

Enclosed is a snap of a catch of our limit of the lake runners, each weighing from 7 ounces to 11

ounces.

They were caught out in Lake Bouef, out of Raceland. The picture shows my 16 year old son and



myself. The perch you are looking at came out of the same hole, no moving was necessary—they were hitting fast and furious.

Hoping that you will show these to others.

Lake runners can make your trip very thrilling.

Thanking you in advance, I remain A True Conservationist, Roy J. Eskine, Scoutmaster, 611 Michael Street, Westwego, La.

Dear Editor:

I found two copies of the LOUISIANA CONSERVATIONIST in the Fuchu Air Station Library.

I find your magazine has very interesting stories and many facts, some that I, myself, have found to be true and accurate in the field of hunting and fishing. When in the States, I received magazines of this type from other states but I find yours superior to all I have read.

I am looking forward to reading more issues of this magazine, and sincerely hope that some day I will have the opportunity to hunt and fish in Louisiana. Sincerely yours, Jerry M. Johnson, Lt. USAF, APO 925.

P. S. This magazine was placed in the library by Captain C. E. Smith of the 6000th Transportation Squadron.

Dear Editor:

I am making a project for a science fair and would appreciate all the information on the deer's antler, especially on how he sheds them. Napoleonville, La.

Thanks very much for your letter of March 4, 1959, requesting information on deer antlers.

Antlers are a bony outgrowth from the frontal bones of almost all members of the deer family. Except in the Caribou, antlers are restricted to the males, and are secondary sex characters used as weapons in fighting for possession of the females. Primitive man used shed deer antlers or those removed from deer that he killed or found dead for weapons and tools.

Growth and development of antlers is very interesting to watch and observe. Antlers appear as a pair of knobs covered with dark skin, from which the antler tissue is developed. Development is dependent upon the quality and quantity of available food. If food conditions are poor, a buck 18 months old may have small spikes or a scrubby "rack". On the other hand, a well fed buck will usually never bear spikes. He may have a ten-point rack when 18 months old if food con-

ditions are good. The presence of a large number of spike bucks in a deer herd is an indication of poor range conditions.

Occasionally deer are noticed with unusual shaped antlers or antlers with as many as 20 or 30 points, these are abnormal. Usually what happens to cause such abnormalities is accidental injury to the soft hairy skin which secures the rapid annual growth of the antlers. This soft hairy skin is known as "velvet".

During normal growth of antlers velvet is removed by the buck rubbing his antlers on trees and other objects. This is the cause for what is commonly known as "buck rubs" on trees where bark has been removed.

After the removal of velvet only the dense connective tissue that becomes calcified, now the antler is exposed. This is usually around September and October. Antlers are polished by the buck rubbing his antlers on trees, in sand or soil, or other objects. After the complete development of his antlers the buck is a proud animal and will use the antlers as his weapon.

Then from January to March the cycle starts over again with the buck shedding his antlers. This is accomplished in a similar manner to the shedding or falling of leaves from trees. An abscission layer develops between the frontal bone and the antler, when the growth or development of this layer is complete the antler is shed.

Many people ask the question "Why can't I find a lot of antlers in the woods if deer shed them annually?" The answer is simple, since the antler is practically a pure calcium deposit, rats, squirrels and other types of rodents prefer to eat them. Thus, if you do not find one soon after it has shed, chances are some animal will beat you to it.

Another misconception that some hunters have is that the age of a deer is determined by the number of "points" present. This is not true. As stated above the number of points is determined by the available food. The only method to accurately determine a deer's age is by food development. This is a highly specialized technique developed by Bill Severinghaus with the New York Conservation Department.

Figure 1 is a diagram of antler development and growth. Also under separate cover we are mailing to you a shed deer antler picked up in the woods by Mr. Renford T. Williams, Game Management Area Supervisor for the Louisiana Wildlife and Fisheries Commission. The antler may be of use to you in your Science Fair exhibit. You may note on this antler how the abscission layer has grown to disconnect the antler so that it may drop off.

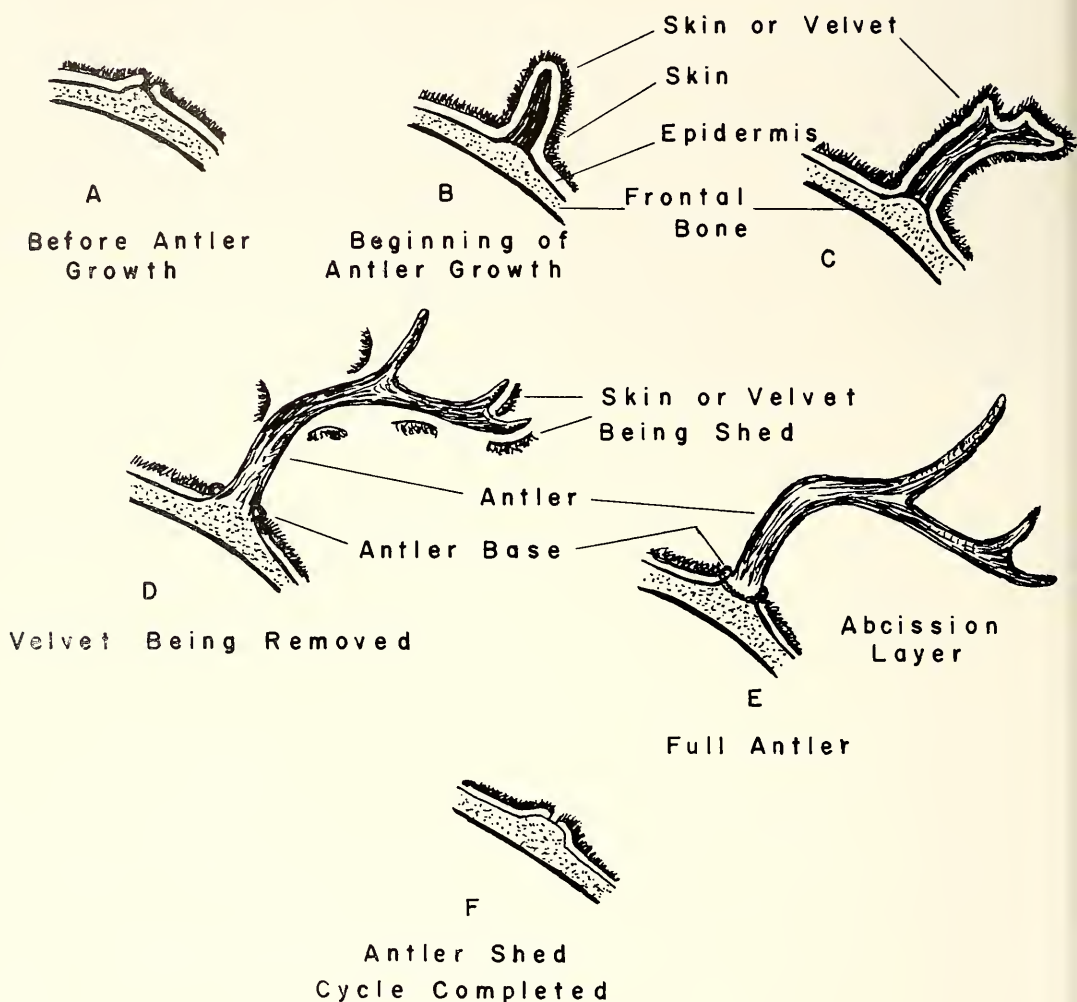
If we can be of further help to you please do not hesitate to call on us. Sincerely yours, Joe L. Herring, Biologist Supervisor, District II.

Turn page for antler growth diagram.



There's more to being a good game agent than just checking on fishing and hunting licenses, says Victor Raborn, far right, Louisiana Wild Life and Fisheries commission agent in Winn Parish. Raborn, from Goldonna, found time the past several years to serve as Scoutmaster of a neighborhood Boy Scout troop. Recently in Winnfield, at a Scout Court of Honor gathering, four of Raborn's boys received the coveted Eagle rank. Shown above, left to right, are: Eck Bozeman, postmaster of Winnfield and advancement chairman; Donnie Gibbs, Jerry Bartlett, James Moore, Harvey Moore and Raborn.

DEER ANTLER DEVELOPMENT FROM BEFORE ANTLER GROWTH TO ANTLER SHED



CHANGE OF ADDRESS NOTICE

Postmaster, Send Form 3579 to: Editor, Louisiana Conservationist, Wild Life and Fisheries Building, 400 Royal St., New Orleans 16, La.



AS WE SEE IT

Is the imported fire ant friend or foe? Or maybe both?

The program for the "control" of the fire ant on about 25,000 acres of the Southeast began in November, 1957. As of now, more area has been treated in Louisiana than any other state. The federal government appropriated \$2,400,000 for the control program to the U. S. Department of Agriculture for fiscal 1958. State legislatures were asked to provide matching funds for work within their state.

The Louisiana Wildlife Federation has been seriously concerned about the effects of toxic chemicals upon all forms of wildlife. Its concern has mounted with the great increase in kinds and amounts of chemicals used. The topic was discussed at the annual convention held last month.

One fact must be remembered about the fire ant control program and that is that the program was launched without adequate research and information as to the insect, methods for its control, or effects of the poisons on wildlife, livestock and people.

As a result of the fire ant control program—the broadcasting of granular heptachlor or dieldrin—alarming kills of many species of wildlife have resulted. In some area livestock have been killed. And in our state the fire ant control program has increased the damage by the sugarcane borer as the treatment reduced populations of natural enemies of the borer—resulting in lower sugar cane production in the area.

In Louisiana several studies have been made to determine the effect of the imported fire ant control program on wildlife. In one area in south-central Louisiana a 6,000 acre block of land was treated at the rate of 2 pounds of heptachlor per acre by agricultural people. Three days after treatment a 300 acre area was thoroughly checked by seven wildlife students. The following dead animals were found: 3 sparrows, 3 meadow-larks, 1 hawk, 6 rabbits, 3 rats, 2 mice, 2 dogs, 1 sunfish, 8 crawfish, and 3 clumps of unidentified feathers. In subsequent visits 4 additional birds were found dead. Four residents of the area lost 72 domestic ducks. Several farmers reported the loss of a few small fish in farm ponds.



FEDERATION BOARD OF DIRECTORS HOLD SPRING MEETING

The regular spring meeting of the board of directors was held in Alexandria on April 19. There were 54 directors in attendance at this first board meeting presided over by President James Ledbetter.

The following clubs were cited as attaining their membership quotas for 1958: Dist. 4, Lake Bistineau Sportsmen's Association and Logansport Deer and Wildlife Protective Association; Dist. 5, Caldwell Parish Fish and Game Association, Ouachita Unit of the Federation, and the Bernice Wildlife Federation; Dist. 6, East Ascension Sportsmen's League and the Ascension Parish Sportsmen's League.

Each year the Federation awards an attractive trophy to each of the top three individuals that enroll the greatest number of members in the Federation.

The awards for 1958 were presented at this meeting to Jesse Brantley who signed up 165 members in the Ouachita Unit and the 2nd place winner was Roy Dahlstrom of the Iberia Rod and Gun Club who enrolled 173 members. The first place trophy for membership attainment was presented to Jack Rushing, president of the Ouachita Unit of the L.W.F. who obtained 230 members.

Francis Braud of Norco who represented the organization at the annual meeting of the National Wildlife Federation reported on the actions taken at the National Braud pointed out that two Louisiana students were among 33 individuals awarded educational grants for the 1959-60 academic year. Stanley Shaw of Baton Rouge was granted \$750 for doctoral work at L.S.U. and Kenneth E. Lantz of Vivian a student at Northwestern was given a smaller grant. Each stu-

dent submitted a project concerning wildlife or conservation education which met the favor of the National Federation.

A progress report was given by Hurley Campbell on developing a proposed state boat registration law to conform with the federal law which requires the numbering of watercraft. Campbell also reported on the list of questions concerning wildlife management, law and administration which had been compiled and after completion will be submitted to candidates for public office for consideration and reply prior to the general elections.

The election of vice presidents for the various congressional districts was held with the following persons elected: Dist. 2, Hubert Schurtz, Destrehan; Dist. 3, Winston Mapes, Lafayette; Dist. 4, L. Richard Fleming, Shreveport; Dist. 5, A. S. Tidwell, Jr., Monroe; Dist. 6, Jules Fontenot, Lottie; Dist. 7, Carl Barnett, Jennings and Dist. 8, George Younger of Alexandria. Following the election of the district veeps several changes in the Federation's By-Laws were concurred in. The Board also gave approval to the appointment of standing committees whose members would serve three year terms after initial appointment which would be for one, two or three years. Such committees would be composed of nine members, one from each district and one appointed from the state at large.

A progress report on the F.A.I.R. program was given by the Federation committee headed by Lloyd Abadie. As soon as more complete plans are developed for this program the intent and purposes of the F.A.I.R. program will be made public.

In other actions the Baton Rouge Sportsmen's League challenged all clubs in the Federation to compete with in obtaining Life Members in the Federation. William C. Hornsey was appointed chairman of the Visual Aids Committee. The Board voted to send representation to the Mississippi Flyway Council meeting in St. Louis, Missouri. And President Ledbetter appointed the following members to the Federation's Boat Launching Site Committee. The directors adopted a resolution concerning the film "Fire Ant on Trial" and stated in part "deplores the misconceptions emphasized in the film; deplores the film's lack of presentation of a complete factual report of all facets of the problem and re-affirm the Federation position against further application of such pesticides by aerial application until complete investigation and research has been made of the effects of these poisons."

EDUCATIONAL ASSISTANCE

President Claude D. Kelley announces that the National Wildlife Federation is offering a total of \$24,750 in educational grants to 33 individuals and three projects for the 1959-60 academic year.

Deserving graduate and undergraduate students, pursuing conservation endeavors, and special conservation projects are recipients of the awards. Graduate fellowships account for \$15,900 of the total with undergraduate scholarships totaling \$6,650 and projects \$2,200.

Unlike most birds, the families of the whooping cranes remain together as units throughout the winter.

KINGFISH

(Continued from page 9)

taken small specimens in a bait seine along the Grand Isle beach and large specimens at the Chandeleur Islands. Dr. Royal D. Suttkus, ichthyologist at Tulane, has specimens from the Chandeleur and Breton Islands.

Previous to the above recent finds, Louisiana records have been negative as far as this species is concerned. It was not listed in Gowanloch's "Fishes and Fishing in Louisiana", and the following is excerpted from Behre's "Annotated List of the Fauna of the Grand Isle Region": "It is to be noted that we have no well-authenticated record of *Menticirrhus littoralis* which might be explained as due to the low salinity of the upper Gulf."

Breeder's Field Book gives the range of the Gulf kingfish as "from Chesapeake Bay to Texas." Unfortunately, Breeder states that it replaces the "southern kingfish" largely in the Gulf of Mexico. He also states that the latter (our "channel mullet") is not common in the Gulf. My observations, as well as those of Dr. Behre, tend to contradict both of these statements.

Both species, under the names "Gulf king-whiting" (*M. littoralis*) and "southern king-whiting" (*M. americanus*) are listed from the Texas coast in Bulletin 33 of the Texas Game and Fish commission. On a trip to Texas, in 1935, I found the first named species to be very abundant (September 5) in the surf along the beach at Galveston, which is definitely not the case along most of the Louisiana coast.

I am now of the opinion that the local abundance of one or the other of these two closely related species along the northern coast of the Gulf is largely a matter of habitat. Other factors, in addition to salinity, may be involved. *M. littoralis*, as its Latin name "pertaining to the seashore" implies, may be a fish of the sandy outer beaches, a true "surf-whiting." Its eyes are smaller than those of a "channel mullet" of similar size, an indication of greater light intensity in its habitat. They are also projected more upward. Its feeding habits suggest those of the bonefish, for it seems to forage in the relatively clear, high salinity, waters which break or rush over the bars and sand spits and into the coves of the offshore islands, chiefly those of the Chandeleur-Breton Island chain.

Perhaps this "surf whiting", or "kingfish" has been overlooked in the confusion of names and generic similarities. The accompanying illustrations show that it is easy to distinguish this species from its much darker, mottled relative, our well known "channel mullet."

This "kingfish" is said to reach a length of about 18 inches and a weight of three pounds. It feeds on small crustaceans, molluscs and fishes found along the seashore. It is more apt to take artificial baits than its deep water relative, the "channel mullet." When hooked, it puts up quite a scrap, especially in the surf, and I have had one to leap out of the water like a speckled sea trout. Besides adding a new type of sport fish to the Louisiana list, this "surf kingfish" is also a taste treat.

The forebearers of all wild sheep evolved on the highlands of Central Asia.



Know Your *BOAT!*

Remember, Folks - - -

ALL IT TAKES IS

COMMON SENSE

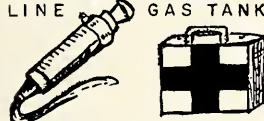
- Make sure your boat, motor and trailer are properly matched. Look for the OBC capacity recommendation plate and guard against overpowering or underpowering.
- Learn as much as possible about your boat, the water on which it operates and the weather which affects it. Respect the wind and the water.
- Learn your outboard's capabilities—what you can and can't expect it to do—and always keep them in mind when you're on the water.
- Make yourself a welcome member of the boating family by knowing and practicing the rules of nautical "road." Learn and observe the federal, state and local laws governing boating.
- Remember that the mark of a real skipper is his alertness. Be extra watchful near other boats, swimmers, unfamiliar area and in crowded waters. Always reduce speed near the shore.

COURTESY

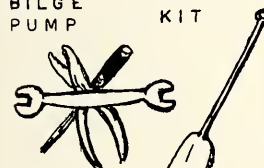
- Think of the safety and comfort of "the other fellow" and he'll do the same for you. Be ready to stop and render aid and assistance when necessary.
- Buzzing docks, swimmers and other boats are a dead give-away that you're a "water cowboy" who doesn't know very much about boats—don't do it!
- Watch your wake. It can cause trouble for smaller and lighter boats and can set up an uncomfortable wash in a crowded anchorage. Remember that you are legally responsible for the damage caused by your wake.
- Give a wide berth to sail and rowboats—they almost always have the right-of-way since you can maneuver faster and easier than they can. Keep your distance, too, from commercial and official government craft.
- And, needless to say, the property of others must be protected. When launching or docking, protect other boats as you would your own. Don't monopolize space in front of gas pumps. And, when a guest on someone else's boat, take your instructions from the skipper.



LINE GAS TANK



BILGE PUMP FIRST AID KIT



TOOL KIT PADDLE



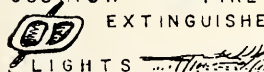
WHISTLE COMPASS



LIFE VEST ANCHOR



BUOYANT CUSHION FIRE EXTINGUISHER



LIGHTS



MRS RUTH CAMPBELL
CURATOR OF LA ROOM
LA STATE UNIV
BATON ROUGE LA



Pet Nutria